Innovative Methods and Tools for Using Traffic and Air Quality Hazard Data for Environmental Public Health Tracking
Plenary and Concurrent Session Abstract Form

Moderator:

Randel J. Stevens, PhD, Information System Project Manager, Nevada State Division of Health

Presenters:

Paul B. English, PhD, MPH, Chief, Epidemiologic Investigations Unit, California Department of Health Services
Visualization and Analytic Methods for the Tracking of Birth Outcomes and Traffic Exposure

Fred Dimmick, Leader, Air Quality Trends Analysis Group, Office of Air Quality Planning and Standards, US EPA
Available Air Quality Observations – Air Monitoring and Satellite Data

Tim Watkins, Assistant Laboratory Director – Air and Mercury, National Exposure Research Laboratory, US EPA
Opportunities for Linking Air Quality and Public Health – Community Multiscale Air Quality (CMAQ) and Other Models/Tools

Session Abstract:

Environmental Public Health Tracking Programs need to fulfill right-to-know needs of the public and communities by providing access to health outcome data while simultaneously protecting data confidentiality and privacy rights of individuals. Hazard and exposure data need to be available in an easily accessible format that facilitates timely surveillance yet provides the most accurate exposure estimates available at the least cost. Additionally, there are a number of other compatibility issues that should be addressed before linkages of the health outcome and exposure or hazard data are performed including: temporally appropriate sampling/collection schedules; compatible geographic units; homogenous exposures across geographic units; and fine enough resolution of data to evaluate the impact of localized exposures. This session will explore many of these issues starting with a presentation exploring spatial methods and the range of options for displaying and modeling birth health outcome and traffic-related pollution including the strengths and limitations of each approach. The next presentation will focus efforts to improve access to data from the national air monitoring networks and on a collaborative effort between EPA and NASA to predict ground level concentrations of particulate matter using satellite data. It will also include a discussion on how the resulting satellite output data is being evaluated with respect to issues of accessibility, accuracy and compatibility with health outcome data for use in Tracking. The final presentation will describe the concurrent similar assessment of innovative models for use in Tracking including a collaborative effort between EPA and NOAA to generate air quality forecasts using the Community Multiscale Air Quality (CMAQ) Model and the use of statistical models for combining data from various sources to produce improved air quality maps with improved spatial and temporal resolution.

Learning Objectives:

After attending this session, the participant will be able to:
1. Identify a number of critical issues that need to be addressed before selection and linkage of health outcome, exposure, and hazard data for Environmental Public Health Tracking
2. Describe at least three efforts to evaluate and address the accessibility, compatibility, accuracy, and utility to Tracking of select high priority exposure and hazard data sets
3. Discuss the strengths and weaknesses associated with each data set.